

## ABSTRACT

1       A process and apparatus is described to improve a digital camera user interface  
2       and increase ease of use and functionality of a digital camera by quickly, accurately and  
3       robustly permitting cursor control and designation in a digital camera display. A  
4       digital camera is used as a pointing device such as a mouse or trackball. The motion of  
5       the camera is detected, and the motion of the camera is used to position graphic  
6       elements on the camera's own display. The camera's motion can be detected with  
7       sensors, such as gyroscopes, or the camera itself can be used as a motion sensor. One  
8       application of this involves using the camera as a computer mouse, or like a gun-sight,  
9       to select images from a sheet of low-resolution ("thumbnail") images. The motion of  
10      the camera is tracked, and the user aims at the desired image from a sheet of thumbnail  
11      images. The thumbnails appear to be fixed relative to the world because the camera  
12      can continuously reposition them in the display based upon the motion of the camera.  
13      The user can then select a thumbnail in an intuitive manner by simply pointing the  
14      camera at the desired thumbnail. For alternative embodiments, the interface can be  
15      used to select regions of greater extent than can be viewed in the viewer or to virtually  
16      review images.